

Appl. No. 10/726,134
Amdt. dated March 21, 2006
Reply to Office action of September 21, 2005

On page 21, beginning on line 24 replace paragraph [0072] with the following paragraph:
[0072] The liquid crystalline material that is utilized with the ~~substantially-coated-spherical substrate~~ particles includes all known types of thermotropic liquid crystalline materials and lyotropic liquid crystalline materials. In one preferred embodiment, lyotropic liquid crystalline material is used as the amplification mechanism. In another embodiment, lyotropic liquid crystalline materials of different origin, including surfactant and lyotropic chromonic liquid crystalline material, may used with the spherical ~~substrate~~ particles.

On page 22, beginning on line 7 replace paragraph [0074] with the following paragraph:
[0074] In another embodiment, the present invention provides a method for detecting ligands. The method for detecting ligands, according this embodiment, includes providing a device that comprises ~~at least one substantially-spherical-substrate~~ a plurality of particles, at least one receptor attached to each of the plurality of particles ~~said-spherical-substrate~~, and an amplification mechanism. The at least one receptor must be capable of binding to a ligand to form a receptor-ligand complex and, upon formation of the receptor-ligand complex, a signal is produced. The amplification mechanism must be capable of amplifying the signal produced by the receptor-ligand complex formation. Generally, a sample containing ligands specific to the receptor that is attached to the particles ~~sphere~~ is exposed to the device. After exposing the ligand-containing sample to the device, the receptor or plurality of receptors that are attached to each of the plurality of particles ~~sphere~~ are allowed to interact with the ligands in the sample to form at least one receptor-ligand complex. The formation of the receptor-ligand complex produces a detectable signal. The signal generated by the formation of the receptor-ligand complex is amplified by the amplification mechanism, namely, the liquid crystalline material. The amplified signal may then be measured and quantitated by those known methods easily determined by those having ordinary skill in the art.

On page ²³~~22~~, beginning on line ⁴~~25~~ replace paragraph [0076] with the following paragraph:
[0076] In another embodiment, the device for the detection of ligands comprises ~~at least one a~~ plurality of particles or substantially-spherical substrates coated with a receptor-binding or receptor-crosslinking material, at least one receptor attached to the coated ~~spherical-substrate~~ particle, and an amplification mechanism comprising a liquid crystalline material. The at least

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